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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,778	12/24/2003	Jeong Dae Seo	K-0597	9463
34610	7590	09/01/2006	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			THOMPSON, CAMIE S	
			ART UNIT	PAPER NUMBER

1774

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/743,778	SEO ET AL.	
	Examiner	Art Unit	
	Camie S. Thompson	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on RCE filed 7/13/06.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/13/06</u>   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 13, 2006 has been entered.
2. Applicant's amendment and accompanying remarks filed April 13, 2006 are acknowledged.
3. The rejection of claims 1-2 and 6-9 under 35 U.S.C 102(e) as being anticipated by Sotoyama et al., U.S. Pre Grant Publication 2004/0053069 is overcome by applicant's submission of the translation of Korean foreign priority document P10-2002-0083279.
4. The rejection of claims 1 and 3-5 under 35 U.S.C. 103(a) as being unpatentable over Sotoyama et al., U.S. Pre Grant Publication 2004/0053069 in view of Robello et al., U.S Pre Grant Publication 2005/0123787 is overcome by applicant's submission of the translation of Korean foreign priority document P10-2002-0083279.

### ***Claim Objections***

5. Claims 3, 4, 6 and 8 are objected to because of the following informalities:  
Delete the term "being" in line 5 of claim 1 and insert - - comprising - -.  
Delete the term "in" in line 2 of claim 2 and insert - - of - -.  
Correct the spelling of the term "tritolyphenyl" in line 2 of claim 4.

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Correct the spelling of the term “t-butyl” in the last line of claim 6.

Correct the spelling of the term “chlorine” in line 3 of claim 8.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 3 and 4 are rendered indefinite because only one of B1 and B2 needs to be selected from the specified possibilities. When only one is selected from the specified possibilities, the other of B1 and B2 is not defined.

Claims 1-9 are rendered indefinite because only one of A1 and A2 needs to be selected from the specified possibilities. When only one is selected from the specified possibilities, the other of A1 and A2 is not defined.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

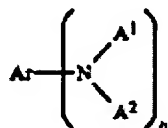
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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9. Claims 1-2 and 6-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohnuma et al., U.S. Patent Number 5,153,073.

Ohnuma discloses an electroluminescent device comprising an anode and a cathode and one or plurality of organic compound layer sandwiched therebetween wherein at least one of the organic compound layers is represented by the general formula



wherein A<sup>1</sup> and A<sup>2</sup> each represents a substituted or unsubstituted alkyl group, or a substituted or unsubstituted aryl group, which may be identical or different with each other, Ar represents a substituted or unsubstituted pyrenyl group and n represents 1 (see column 2, line 43-column 5, line 45).

***Claim Rejections - 35 USC § 103***

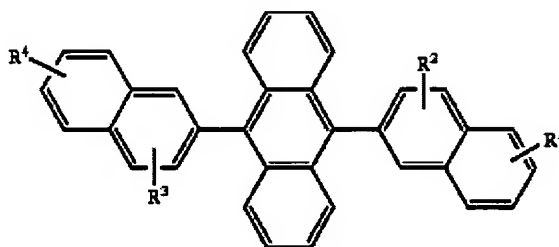
10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al., U.S. Patent Number 5,935,721 in view of Ohnuma et al., U.S. Patent Number 5,153,073.

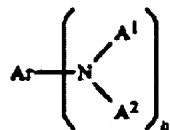
Shi discloses an organic electroluminescent device comprising an organic electroluminescent element disposed between an anode and cathode (see column 2, lines 9-14). The Shi reference also discloses that the luminescent element comprises an anthracene derivative with formula



wherein R<sub>1</sub> to R<sub>4</sub> can be hydrogen. The Shi reference reads on instant claim (H-16) when the substituents are hydrogen. Column 47, lines 59-68 of the Shi reference disclose that the luminescent layer comprises a host material doped with at least one or more fluorescent dyes for tuning of the color of the EL device. Column 48, lines 3-23 of the reference discloses the use of conjugated benzenoids as blue dopants. The Shi reference does not disclose the pyrene dopant as present by the present claims.

Ohnuma discloses an electroluminescent device comprising an anode and a cathode and one or plurality of organic compound layer sandwiched therebetween wherein at least one of the organic compound layers is represented by the general formula

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wherein A<sup>1</sup> and A<sup>2</sup> each represents a substituted or unsubstituted alkyl group, or a substituted or unsubstituted aryl group, which may be identical or different with each other, Ar represents a substituted or unsubstituted pyrenyl group and n represents 1 (see column 2, line 43-column 5, line 45). The compound of the Ohnuma reference is a conjugated benzenoid and meets the limitations of the pyrene materials by the present claims. Absent a showing of superior/unexpected results commensurate in scope with the present claims, it is the examiner's position that it would have been with the level of skill in the art to select suitable dopants from known fluorescent material. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a benzenoid material such as taught by Ohnuma as a dopant in Shi's light emitting layer in order to tune the color of the EL device.


### ***Response to Arguments***

11. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571) 272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena L Dye, can be reached at (571) 272-3186. The fax phone number for the Group is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
RENA DYE  
SUPERVISORY PATENT EXAMINER  
A.U. 1774 8/15/07